

# Comparisons of Job Characteristics

**Focus Occupation:** [Civil Engineering Technicians \(17-3022\)](#)

**Associated Occupation:** [Surveyors \(17-1022\)](#)

[Compare Knowledge](#)

[Compare Skills](#)

[Compare Abilities](#)

[Compare Detailed Work Activities](#)

[Compare Tools and Technologies](#)

<<	Focus occupation element is much lower
<	Focus occupation element is lower
0	Focus occupation element is at a similar level
>	Focus occupation element is at a higher level
>>	Focus occupation element is at a much higher level

## Knowledge

Similarity of Focus Occupation to Associated Occupation: 78

**Focus Occupation:** Civil Engineering Technicians (17-3022)

**Associated Occupation:** Surveyors (17-1022)

Associated Occupation's Key Knowledge Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Mathematics	9.2	20.6	15.0	<<	Extensive education and/or training may be required
Geography	3.9	16.1	9.0	<<	Extensive education and/or training may be required
Computers and Electronics	8.4	15.3	10.8	<<	Extensive education and/or training may be required
Engineering and Technology	5.7	15.1	15.6	0	Current knowledge level may be sufficient
Administration and Management	8.4	12.6	8.2	<<	Extensive education and/or training may be required
Design	5.2	12.6	14.1	>	Current knowledge level is likely sufficient
Law and Government	5.9	12.0	6.7	<<	Extensive education and/or training may be required
Physics	4.3	9.2	7.0	<<	Extensive education and/or training may be required
Building and Construction	4.0	8.9	15.1	>>	Current knowledge level is likely more than sufficient
History and Archeology	2.6	6.8	1.2	<<	Extensive education and/or training may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

## Skills

Similarity of Focus Occupation to Associated Occupation: 81

**Focus Occupation:** Civil Engineering Technicians (17-3022)

**Associated Occupation:** Surveyors (17-1022)

Associated Occupation's Key Skills Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
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Mathematics	6.2	14.1	8.7	<<	Extensive development of skills in this area may be required
Management of Personnel Resources	6.9	9.9	6.9	<<	Extensive development of skills in this area may be required
Equipment Selection	3.3	6.2	1.3	<<	Extensive development of skills in this area may be required
Programming	2.2	5.1	1.8	<<	Extensive development of skills in this area may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

Abilities		Similarity of Focus Occupation to Associated Occupation: 91			
Focus Occupation: Civil Engineering Technicians (17-3022) Associated Occupation: Surveyors (17-1022)					
Associated Occupation's Key Abilities Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Mathematical Reasoning	6.3	14.7	10.3	<<	Extensive improvement in abilities may be required
Number Facility	6.3	13.3	9.2	<<	Extensive improvement in abilities may be required
Flexibility of Closure	7.8	12.1	7.4	<<	Extensive improvement in abilities may be required
Information Ordering	9.9	12.0	10.3	<	Some improvement in abilities may be required
Far Vision	7.8	10.8	9.0	<	Some improvement in abilities may be required
Visualization	7.5	10.8	11.4	0	Current ability level may be sufficient
Speed of Closure	5.9	8.7	6.2	<<	Extensive improvement in abilities may be required
Spatial Orientation	2.7	7.0	1.5	<<	Extensive improvement in abilities may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

Activities that Both Occupations Have in Common		Similarity of Focus Occupation to Associated Occupation: 97	
Focus Occupation: Civil Engineering Technicians (17-3022) Associated Occupation: Surveyors (17-1022)			
Work Activities		Exclusivity of Activity	
Analyze technical data, designs, or preliminary specifications		47	
Communicate technical information		4	
Conduct land surveys		81	
Conduct plant location surveys		87	
Draw maps or charts		69	

Estimate cost for engineering projects	69
Estimate time needed for project	64
Evaluate costs of engineering projects	70
Examine engineering documents for completeness or accuracy	62
Interpret aerial photographs	69
Interpret maps for architecture, construction, or engineering project	77
Judge distances	89
Operate land or site surveying instruments	80
Prepare safety reports	60
Read blueprints	10
Read maps	42
Read technical drawings	7
Resolve engineering or science problems	46
Understand engineering data or reports	48
Understand property documents	77
Use building or land use regulations	65
Use computer aided drafting or design software for design, drafting, modeling, or other engineering tasks	58
Use drafting or mechanical drawing techniques	50
Use knowledge of regulations in surveying or construction activities	78
Use land surveying techniques	80
Use scientific research methodology	21

Not all positions in these occupations will necessarily perform all of the listed activities. The exclusivity rating is an indication of how unique the activity is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations engage in that activity.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

## Tools and Technologies that Both Occupations Have in Common

Similarity of Focus  
Occupation to Associated  
Occupation: 73

**Focus Occupation: Civil Engineering Technicians (17-3022)**

**Associated Occupation: Surveyors (17-1022)**

Tools and Technologies	Exclusivity
Audio and visual equipment	4
Computer data input devices	2
Computers	1
Content authoring and editing software	1
Garden tools	12
Indicating and recording instruments	2
Industry specific software	1
Information exchange software	1
Land surveying instruments	19
Length and thickness and distance measuring instruments	2
Measuring and layout tools	3
Meteorological instruments	16
Network applications software	1
Personal communication devices	2

Not all positions in these occupations will necessarily use all of the listed tools and technologies. The exclusivity rating is an indication of how unique the tool or technology is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations use that tool or technology.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.